CLAIMS

[1]   A transmission power control method in a mobile communication system in which a mobile station connects with a plurality of radio base stations simultaneously;

in said radio base station, said method comprising:

5   a step of measuring a receiving level of an up-link from the mobile station; and

a step of transmitting up-transmission power instruction information for instructing that up-transmission power be lowered to the mobile station when the receiving level is not less than a predetermined target value and of

10   transmitting up-transmission power instruction information for instructing that up-transmission power be raised to the mobile station when the receiving level is below the predetermined target value:

in the mobile station, said method comprising:

a step of receiving the up-transmission power instruction information

15   from the plurality of radio base stations connected thereto; and

a step of determining up-transmission power using only up-transmission power instruction information from radio base stations having down-links of a predetermined communication quality or more, from among the up-transmission power instruction information received from the radio

20   base stations.

[2]   The transmission power control method according to Claim 1, wherein, in determining up-transmission power in the mobile terminal, a determination is made to raise the up-transmission power when all pieces of the up-transmission power instruction information from the radio base stations

5   having down-links of the predetermined quality or more are instructions for raising the transmission power, and a determination is made to lower the up-transmission power when at least one piece of up- transmission power instruction information is an instruction for lowering the transmission power.

[3]   A mobile communication system performing soft handover and transmission power control, comprising:

    a plurality of radio base stations for transmitting up-transmission power instruction information for lowering up-transmission power to a down-

5   link when the receiving level of an up-link is not less than a predetermined up-target value, and for transmitting up-transmission power instruction information for raising up- transmission power to the down-link when the receiving level is below the predetermined up-target value; and

    a mobile station for determining up-transmission power using only the

10   up-transmission power instruction information received from radio base stations having down-links of a predetermined communication quality or more, from among the up-transmission power instruction information received from the plurality of radio base stations that are connected by soft handover.

[4]   The mobile communication system according to Claim 3, wherein, in determining up-transmission power by the mobile station, a determination is made to raise the up-transmission power when all pieces of the up-transmission power instruction information from radio base stations having

5   down-links of the predetermined quality or more are instructions for raising the transmission power, and a determination is made to lower the up-transmission power when at least one piece of up-transmission power

instruction information is an instruction for lowering the transmission power.

[5]   The mobile communication system according to Claim 3 or 4, wherein said mobile station transmits down-transmission power instruction information for instructing that down-transmission power be lowered to an up-link when the receiving level of the down-link is not less than a predetermined

5   down target value, and transmits down-transmission power instruction information for instructing that down-transmission power be raised to the up-link when the receiving level is below the predetermined down target value; and wherein said radio base station determines down-transmission power using the down-transmission power instruction information received from the

10   mobile station connected thereto.

[6]   A mobile station apparatus used in a mobile communication system performing soft handover and transmission power control, comprising:

    a receiver for receiving signals of down-links from a plurality of radio base stations connected by soft handover;

5   an up-link transmission power calculation unit for determining up-transmission power using only up-transmission power instruction information extracted from signals received from down-links of a predetermined communication quality or more, from among signals received by the receiver; and

10   a transmitter for transmitting the signals to the up-links with the up-transmission power determined by the up-link transmission power calculation unit.

[7]   The mobile station apparatus according to Claim 6, wherein, in
determining up-transmission power by the up-link transmission power
calculation unit, a determination is made to raise the up- transmission power
when all pieces of the up- transmission power instruction information
5   extracted from signals received from the down-links of the predetermined
quality or more are instructions for raising the transmission power, and a
determination is made to lower the up-transmission power when at least one
piece of up-transmission power instruction information is an instruction for
lowering the up-transmission power.
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[8]   The mobile station apparatus according to Claim 6 or 7 further
comprising:
        a down-link receiving level measurement unit for measuring a
receiving level of the down-link in the receiver; and
5   a down link receiving level comparison unit for transmitting down-
transmission power instruction information for instructing that the down-
transmission power be lowered to the up-link via the transmitter when the
receiving level measured by the down-link receiving level measurement unit
is not lower than a predetermined target value, and for transmitting down-
10   transmission power instruction information for instructing that the down-
transmission power be raised to the up-link via the transmitter when the
receiving level measured by the down-link receiving level measurement unit
is below the predetermined target value.

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